



**STATE OF MONTANA
MONTANA DEPARTMENT OF TRANSPORTATION
JOB PROFILE**

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Update

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Formal Review

Date Submitted _____

SECTION I - Identification

Working Title: Enterprise Architect

Department: Transportation

Job Code Number: 151517

Division & Bureau: Information Services
Division

Job Code Title: Computer Systems Analyst

Section & Unit:

Pay Band: 7

Work Address: 2701 Prospect Ave
Helena, MT 59620

Position Number: 25027

Phone: 444-6200

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FLSA Exempt

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FLSA Non-Exempt

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Non-Union

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MPEA

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Blue Collar

Profile Completed By: Kristi Antosh

Work Phone: 444-6274

Work Unit Mission Statement or Functional Description:

The Information Services Division (ISD) provides a full range of services for the Montana Department of Transportation (MDT). The bureaus within the division plan and set policy, and coordinate, design, install and maintain the department's information technology infrastructure, including network management, server systems administration, computer systems and database administration, applications development and maintenance, integrated systems development, Internet and Intranet development, data security & disaster recovery services, geospatial information systems (GIS), global positioning systems (GPS), and roadway information collection. ISD provides user support, training, imaging and duplication services, IT research and development, internal budgeting, procurement contract administration, and project management. The division includes the MDT Duplicating Services Section.

Describe the Job's Overall Purpose:

The Enterprise Architect works closely with business and technology counterparts to understand the agency's business objectives and initiatives and the impact on ISD's services and project portfolio. The position takes the agency's business strategy and defines the IT architecture to support that strategy.

Develops and maintains the enterprise TOGAF model [The Open Group Architecture Framework] and is able to demonstrate the impact of new technology strategies within the agency and across the state enterprise where applicable. Develops and maintains the business case and roadmap (project plan and interim architectures) that are aligned with the business strategy. Reviews the overall application portfolio and technology direction to propose changes to the enterprise application and technology architecture strategy as necessary to meet the business needs. Develops documents and presents information to build consensus amongst business and technology counterparts regarding the enterprise architecture; providing thought leadership on application and technology architecture and conducting business and technical research to stay abreast of trends, points of view and new technologies or service directions that will improve the business or technology landscape at MDT.

SECTION II - Major Duties or Responsibilities:	% of Time
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A. Enterprise Services Analysis & Recommendation	75%
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This position is the Information Services Division's primary technology architect. This individual will gain and share knowledge regarding the inter-relationships of all applications supported by ISD and external SaaS or local providers - primarily through data models and/or process models. Requires strong experience with application development frameworks, databases and operating systems in order to draw upon that knowledge in analysis of tools, products, techniques to meet the business needs. With an understanding of the business domain and rationale, he/she will translate business strategy into a technical vision and strategy focusing on developing an application technology roadmap incorporating refresh lifecycles as well as application obsolescence. This individual will share such information throughout MDT and as appropriate with other State Agencies for collaborative efforts.

1. Drives Service Oriented Architecture (SOA) solutions within ISD to meet the agency's business needs; develop a SOA based blueprint and framework.
2. Provides enterprise application architecture leadership
3. Researches MDT's headquarters and district business strategic and tactical business plans, strategies, objective and priorities
4. Aligns ISD's enterprise architecture to Agency business needs; aligns business and technology standards.
5. Documents/analyzes current architecture to identify weaknesses and opportunities for improvement.
6. Participates in the creation and evolution of a technology roadmap that defines current technical architectures, future architectures and the evolution for transition
7. Provides thought leadership in the evaluation, selection, deployment and support of new technologies which enable enterprise-wide collaboration
8. Provides architecture support to ISD staff during all phases of application development; serve as the SME for architectural frameworks, methods, design patterns and tools
9. Identifies/resolves new requirements or guides the development of standards related to new technologies
10. Operates across organizational and computing 'silos' to drive common approaches and to expose information assets and processes across the agency.
11. Participates in the architecture governance and review process to ensure project adherence to established standards
12. Ensures appropriate artifacts are incorporated into MDT's enterprise architecture repository
13. Advocates technology to be a critical enabler for business; involves significant client-facing interactions with business
14. Drives MT's architecture and technology strategy development, execution, adoption via sustainable change management methods leveraging current assets when possible.
15. Pursues agency buy-in via a number of approaches – vetting processes, COE communities, Focus working Groups and POC environments

16. Able to lead in vendor selection and software evaluations providing holistic total cost of ownership, technical analysis, and risk analysis
17. Works with stakeholders, both leadership and SMEs, to build a holistic view of the organization's strategy, processes, information, and information technology assets.
18. Refines, reviews and approves System Design specifications, process models, data architecture and/or data flow diagrams
19. Evaluates enterprise system integration and compatibility
20. Evaluates current design and participates in user authentication and authorization methods, design, and architecture

B. Enterprise Level Project Management

20%

Manages major cross-divisional and/or cross-Agency projects or programs as they relate to enterprise architecture. Ensures that professional processes and developed standards are followed for each project. Coordinates and works with technical staff and business staff within MDT and where appropriate with similar resources across the State Enterprise.

1. Directs multiple architectural projects concurrently ensuring appropriate PMBOK, SITSD and procurement standards are followed
2. Ensures cross functional resources are assigned to enable acceptance to the business and/or process changes the project will create
3. Regularly communicates with project sponsors, ISD staff, and stakeholders
4. Oversee (organize, direct, review and approve the work of others in the performance of) project delivery; assemble project teams; assign individual responsibilities, identify appropriate resources needed and develop schedules to ensure timely completion, coordinate staffing needs with functional area managers
5. Demonstrates full comprehension of MDT's business and processes as they relate to architectural change being implemented.
6. Ensures system interfaces impacting existing computer systems, proposed systems, networks, and applications are all addressed whether they are internal to MDT or cross-Agency.
7. Applies an in-depth knowledge of project management concepts, practices and procedures
8. Works under demanding deadlines; acts independently, operating with only general direction

C. Other Duties

5%

Performs a variety of other duties as assigned in support of the division, its goals and objectives. Examples of other duties are: assisting other MDT programs on special projects and attending training and educational sessions as necessary.

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1. ***The following duties and/or specific tasks listed under section II above are considered "essential functions" because they require specialized expertise and skill and are the primary reasons the job exists (they must be performed by this position with or without accommodations):***

Duty A: Enterprise Services Analysis & Recommendation

The following mental and physical demands are associated with these essential functions:

PHYSICAL

- Light lifting (less than 10 lbs.)
- Carry light items (papers, books, laptop)

- Remaining seated for extended periods of time, with occasional walking; standing; bending
- Operating a personal computer
- Effective, professional communicating in writing, in person and over the phone
- Limited travel around the Helena area and occasional district visits

MENTAL

- Mediating conflicts between passionate and opposing technologists to reach consensus
- Ability to multi-task
- Conduct research
- Comparing data
- Compiling information
- Analyzing – inductive and deductive reasoning
- Synthesizing
- Making decisions in a timely manner to ensure technology needed can be made available to meet the business needs
- Complex mathematics including statistical analysis
- Coordinating
- Negotiating
- Influencing
- Instructing
- Dealing with the internal business users at all levels
- Demands for accuracy in all aspects of work
- Change Agent/Catalyst
- Creative problem solving

2. ***Does this position supervise others?*** ☐ Yes ☒ No

3. ***Attach an Organizational Chart.***

SECTION III - Minimum Qualifications - List minimum requirements for the first day of work.

Critical knowledge and skills required for this position:

KNOWLEDGE:

Specific knowledge related to data architecture, application architecture and technology architecture; including the impact of GIS on those architectures. Expanded knowledge or experience with computer operating systems (both server and PC) specific to MDT (specifically Linux, Windows 2008, Windows 7) and/or Unix; knowledge of the theories and developmental applications of computer science including systems development, implementation and management – SDLC; Expanded knowledge of one or more RDBMS and related tools, understanding of database from both developer and systems view; and security understanding (AD, DB and file). Thorough knowledge of application development frameworks leveraged within technology domains of Java and .Net including practical competencies necessary to develop solutions based upon various frameworks. Knowledge of contemporary technologies deployed throughout the technical architecture space including Virtualization technologies, Operating Systems, Enterprise Services Buses, Service Oriented Architecture, Java and .Net application servers, HTTP servers, IM and security. Must be able to identify new and emerging technologies in support of MDT's IT strategic goals.

SKILLS:

Strong interpersonal skills in communication – articulating the technology speak in business terms with senior IT and business management; self-confidence – passionate about driving progress, evolution

and success; influencing – driving for results using accountability, integrity, teamwork, leadership, etc. Both a technology and a business background and the ability to demonstrate integration experience in enterprise level deployments. Expansive hands-on experience with all aspects of SDLC – concepts, requirements, design, development, QA, and deployment of software applications. Strong experience with data and information architecture areas - data views, data stream processing, database platform selection and optimization, ETL and data integration broker tool selection and configuration and OLAP technologies. Skill in negotiation and mediation; problem identification, analysis and solution identification; listening, trust building; and developing approaches to computer system issues with significant impact on agency business processes. Must manage complex and varied architecture projects; develop project plans; and use various computer hardware, network, database, and data modeling tools, single and multiple-user computer systems, remote communication devices; Must have excellent technical, conceptual, analytical, problem-solving , and technical project management skills in order to interact effectively with the full spectrum of contacts on an ongoing basis and the ability to work under demanding deadlines; act independently, operating with only general direction

COMPETENCIES:

Continuous learning and self-development; demonstrates team leadership; is relied on by others as a valid resource for information; communicates effectively with internal divisional and external (internal to the agency and/or the state) customers/peers. Assumes responsibility and is given the authority to complete higher level activities with general supervision; anticipates potential problems; conflict resolution within a team environment; data management; trend analysis; situational awareness within an IT environment.

Behaviors required to perform these duties:

See MDT Core Behaviors

Education:

Check the one box indicating minimum education requirements for this position for a new employee the first day of work:

- | | |
|---|--|
| <input type="checkbox"/> No education required | <input type="checkbox"/> Related AAS/2-years college/vocational training |
| <input type="checkbox"/> High school diploma or equivalent | <input checked="" type="checkbox"/> Related Bachelor's Degree |
| <input type="checkbox"/> 1-year related college/voc. training | <input type="checkbox"/> Related Master's degree |

Please specify the acceptable fields of study:

Acceptable: BA/BS Computer Science or related degree

Desired: MS in Computer Science or MBA

Experience:

Check the one box indicating minimum work-related experience requirements for this position for a new employee the first day of work:

- | | |
|---|---|
| <input type="checkbox"/> No prior experience required | <input type="checkbox"/> 3 years |
| <input type="checkbox"/> 1 year | <input type="checkbox"/> 4 or 5 years |
| <input type="checkbox"/> 2 years | <input checked="" type="checkbox"/> 6 years |

Other specific experience (optional):

Minimum of six years of related IT experience, four (4) of which would have to be architectural in nature. The IT experience being sought includes in-depth knowledge of application development technologies, tools, and methodologies including solid project management; strong understanding of how technology relates to business, differing markets and industries and applies knowledge to support the needs of critical systems and projects; specific experience in business analysis along with advanced knowledge of and proficiency with several domains or technical platforms and disciplines is required. Other experience requested is a demonstrated ability to translate highly complex and ambiguous problems into actionable components and lead the solutioning efforts; experience with blueprinting and developing conceptual, logical and technical architecture data models at the enterprise level. Proven ability to provide technical leadership and command respect at all levels of the organization.

Alternative Qualifications:

This agency will accept alternative methods of obtaining necessary qualifications.

☒ Yes ☐ No

Alternative qualifications include:

1) Up to four years of additional related work experience may be substituted for the four year degree requirement although it would be treated as a 'non-related' BA/BS degree. Thirty (30) completed and passed semester credits (or the equivalent in quarter credits) from an accredited college or university will be considered as one year of college.

2) In replacement of the related Bachelor's Degree requirement, MDT would accept:

- another non-related BA/BS degree with a minimum of 8 years IT related experience as defined above, which must reflect a minimum of 4 years of Enterprise Architect experience, **OR**
- an AA/AS Degree in Computer Science or related field and a minimum of 10 years IT related experience as defined above, which must reflect a minimum of 4 years of Enterprise Architect experience.

SECTION IV – Other Important Job Information

☒ Fingerprint check

☐ Valid driver's license

☒ Background check

☐ Other; Describe

Other information including working conditions such as shifts, lifting requirements, travel or hours.

Responsibilities require the incumbent to work within predetermined timeframes to meet critical deadlines. The predominate work is performed in an office setting during normal working hours and often requires the incumbent to sit for extended periods of time while working at a desk and computer. Limited day and overnight travel may be required to gather information from district office locations.

SECTION V – Signatures

Signature indicates this statement is accurate and complete.

Employee:

Name: _____ Title: Enterprise Architect _____

Signature: _____ Date: _____

Immediate Supervisor:

Name: _____ Title: _____

Signature: _____ Date: _____

Bureau Chief:

Name: _____ Title: _____

Signature: _____ Date: _____

Division/District Administrator:

Name: Mike Bousliman _____ Administrator, Information Services Division _____

Signature: _____ Date: _____

Department Designee:

Brent Rabe /Designee Human Resources Officer
Human Resources Division

Signature: _____ Date: _____